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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/874,128	06/05/2001	Michael J. Siwinski	82689THC	6260

7590 11/02/2004

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EXAMINER	
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ART UNIT	PAPER NUMBER
2675	10

DATE MAILED: 11/02/2004

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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 09/874,128
Filing Date: June 05, 2001
Appellant(s): SIWINSKI, MICHAEL J.

Andrew J. Anderson
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 10 May 2004.

(1) Real Party in Interest

A statement identifying the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) Status of Claims

The statement of the status of the claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Invention

The summary of invention contained in the brief is correct.

(6) Issues

The appellant's statement of the issues in the brief is substantially correct. The changes are as follows: The rejection of claims 1 – 10 under 35 U.S.C. 112, second paragraph, is withdrawn. The appellant's statement of issues 2, 3, and 4 are correct.

(7) Grouping of Claims

The rejection of claims 1, 4, 5, and 8 stand or fall together because appellant's brief does not include a statement that this grouping of claims does not stand or fall together and reasons in support thereof. See 37 CFR 1.192(c)(7).

The rejection of claims 9 and 10 stand or fall together because appellant's brief does not include a statement that this grouping of claims does not stand or fall together and reasons in support thereof. See 37 CFR 1.192(c)(7).

The rejection of claims 2 and 6 stand or fall together because appellant's brief does not include a statement that this grouping of claims does not stand or fall together and reasons in support thereof. See 37 CFR 1.192(c)(7).

The rejection of claims 3 and 7 stand or fall together because appellant's brief does not include a statement that this grouping of claims does not stand or fall together and reasons in support thereof. See 37 CFR 1.192(c)(7).

(8) Claims Appealed

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) Prior Art of Record

6,069,440	SHIMIZU et al.	5-2000
5,790,096	HILL, Jr.	8-1998
6,133,692	XU et al.	10-2000
5,944,829	SHIMODA	8-1999
6,311,282 B1	NELSON et al.	10-2001

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1, 4, 5, and 8 are rejected under 35 U.S.C. 103(a). This rejection is set forth in a prior Office Action, mailed on 3 December 2003 (Paper No. 5).

Claims 9 and 10 are rejected under 35 U.S.C. 103(a). This rejection is set forth in a prior Office Action, mailed on 3 December 2003 (Paper No. 5).

Claims 2 and 6 are rejected under 35 U.S.C. 103(a). This rejection is set forth in a prior Office Action, mailed on 3 December 2003 (Paper No. 5).

Claims 3 and 7 are rejected under 35 U.S.C. 103(a). This rejection is set forth in a prior Office Action, mailed on 3 December 2003 (Paper No. 5).

*(11) **Response to Argument***

Independent claims 1, 5, 9, and 10 each describe a color organic electro-luminescent [OLED] display having both colored light emitting elements and white light emitting elements. In a power saving mode, the display shows a monochrome image using only the white light emitting elements. Claims 1 and 5 each describe the white light emitting elements as having light emitting efficiencies greater than at least one of the colored light emitting elements. Claims 9 and 10 each describe the white light emitting element being twice as efficient as at least one of the colored light emitting elements. The remaining claims are each dependant on claims 1, 5, 9, or 10.

Applicant argues that the prior art cited does not teach using a white light emitting elements that is more efficient that a colored light emitting element. Both the examiner and primary examiner have done prior art searches specifically seeking prior art that compares the efficiency of white light emitting elements to color light emitting elements. Examiner also requested two separate searches through the Scientific & Technical Information Center [STIC] of the USPTO. None of the prior art found specifically compares the efficiency of white light emitting elements to colored light emitting elements although examiner and STIC located

numerous references that compare the efficiency of colored lights to other colored lights (e.g. red to blue to green) and the efficiency of one type of a white light emitting element to another white light emitting element. For the reasons stated in the prior office action and as follows, however, examiner still maintains the rejection.

In the prior office action, examiner, citing Hill, argued that white light is more efficient than red, green, or blue light because the eye sees a white light operating at 2/16 of full power and a blue light operating at full power as having the same brightness. See e.g. Hill, col. 7, lines 10 – 40. In fact, a white light would be eight times more efficient than a blue light. Final Rejection, p. 6. Applicant counters that the white light has light emitting efficiency which is explained in the specification as being the amount of light output produced for a given amount of current, such as may be reported in the units of candelas/ampere. Appeal Brief, p. 4. Applicant cites the specification at page 3, lines 19 – 25 which reads,

> The materials used to produce the different colors of light do not have the same efficiencies. Some of the materials will produce more light output than others, for a given amount of input current. The green light emitting materials are the most efficient, and may be as much as four or five times as efficient as the blue material, which is the least efficient. In one example, the read light emitting elements emits 4 candelas/ampere, the green emit 10 candelas/ampere, and the blue emit 2 candelas/ampere.

Nowhere, however, do the specification or the claims limit the term light emitting efficiency to such description. During examination, the claims must be interpreted as broadly as their terms reasonably allow. This means that the words of the claim must be given their plain meaning unless applicant has provided a clear definition in the specification. The words in a claim are generally not limited in their meaning by what is shown or disclosed in the

specification. It is only when the specification provides definitions for terms appearing in the claims that the specification can be used in interpreting claim language. MPEP 2111.01

Moreover, applicant's specification admits. "It is commonly known that the various colors of OLED materials doe not create light with the same efficiencies." Specification, page 2, lines 28 – 30. It would have been obvious to one of ordinary skill in the art at the time of the invention to use the white light with the highest efficiency possible especially in the display that would save power in the monochrome mode. Of course, saving power is always desirable in any flat panel display because such flat panel display are typically is used in a portable computer powered by a battery. This is supported by Xu which states,

> Green, blue, red, and white OEDs have been experimentally demonstrated and, except for green, the red, blue and white devices still show low luminous efficiency and poor reliability. Typically, because of the poor performance of blue, red, and white, devices, these devices are not good enough to provide a RGB display with a reasonable performance. There still exists problems associated with generating the three primary colors in a single device.
>
> Accordingly, it is highly desirable to provide an organic electroluminescent device for generating substantially white light.
>
> It is a purpose of the present invention to provide a new and improved white light organic electroluminescent device for generating white light with improved uniformity of primary color components.
>
> It is a further purpose of the present invention to provide a white light generating organic electroluminescent device with improved efficiency and reliability.

Xu, col. 1, lines 49 – 67. Although Xu does not specifically teach that its white OED is more efficient than the prior art blue and red OEDs, Xu does teach that its white light is more efficient than prior art white light and it follows that it would be more efficient than the prior art blue and red OEDs. One in the art would choose Xu's white light with improved efficiency to maximize

brightness in the white light display. As Shimizu teaches, "brightness of display can be improved by adding the white light emitting diode to the RGB light emitting diodes." Shimizu, col. 22, lines 39 – 41.

Moreover, one in the art desiring to produce a monochromic display to save power would seek the most efficient white light. If a colored OED was more efficient than a white OED, one in the art would choose the colored OED rather than a white OED for display to conserve power while maximizing brightness of the display.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

DENNIS-DOON CHOW
PRIMARY EXAMINER

Leland R. Jorgensen
October 30, 2004

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